

is attended with a feeling of heat and perspiration. After the febrile production of heat has reached its maximum a period is reached in which the difference between the temperature of the skin and that of the body-covering equals that which is present in health. The skin again feels comfortable. Any change in the existing degree of rapidity of heat-dissipation acts as an irritant. Probably the intensity of the irritation and the sensibility of the cutaneous nerves is greater as a result of the elevation of temperature. However this may be, the result is that heat-dissipation and heat-production become equal. The bodily temperature remains at the same level (*febris continua*). There is thus again established a condition of the thermometric equilibrium, as in health, with the difference, however, that heat-production and heat-dissipation are both greater. This condition of equilibrium is maintained as long as the heat-production (which depends upon the febrile disease-process) and the conditions for heat-dissipation (including the bed and the surrounding temperature) remain unchanged.

SURGERY.

UNDER THE CHARGE OF

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THE SECONDARY UNION OF PORTIONS OF SKIN REMOVED FROM THE BODY WITH THE ADJACENT FAT.

HIRSCHBERG (*Archiv für Elin. Chir.*, 1893, Band xlvii., Heft 1) deals at great length with the historical portion of his subject, to support his theory that hyperæmia and a weakened condition of vasor tonus are the salient features in the success of transplanting unpediculated skin-grafts, containing the entire thickness of the skin, and also the underlying connective and adipose layers of tissue. He says of his method: "The secret, in my opinion, of transplantation lies in the use of portions of skin rich in vascular supply, and especially in an artificially produced hyperæmia." He reports four successful cases in which the operation performed was the following: While the defect to be filled is held under compresses by an assistant, the operator places an Esmarch bandage, and tube on the uplifted arm. The bandage is removed after a few moments, the arm laid upon the operating-table, and the portion of skin to be transplanted is beaten for two or three minutes with a doubled-up small rubber drainage-tube; he then cuts out the three sides of the graft; through

these three sides he passes sutures, leaving each with its needle *in situ*. Not until the bleeding is entirely controlled does he remove the Esmarch tube. In a few minutes the flap reddens and is markedly swollen, and the papillæ of the cuticle stand out.

After all bleeding has stopped and the wound is aseptically clean, he cuts the fourth side with scissors, lays the graft, skin side down, upon an aseptic gauze compress soaked in warm normal salt solution, and rearranges his sutures. Then the skin is quickly placed in the prepared wound and sewn in place; sometimes fine approximation sutures are required. Any oozing under the graft is then gently stroked out at the free, or fourth side, which is then sutured in place. The dressing consists of protective gauze, compress cotton, and a light compressing bandage. The healing took about six weeks; there was slight necrosis and considerable exfoliation of the epidermis during the healing process.

SKIN-TRANSPLANTING WITHOUT A PEDICLE.

THE successful restoration of the skin, after traumatic injury or operative removal, to its normal condition is a subject of wide interest. The work done in this direction by KRAUSE (*Arch. für klin. Chir.*, Band xlv., Heft 1) is noteworthy. He has within the past two years transplanted over one hundred grafts in twenty-one different cases; of these only four grafts entirely died. It does not matter how large the pieces are. Spindle-shaped strips eight to ten inches long and two and a quarter to three inches wide at their widest parts heal as easily as smaller ones. The main points in the production of good results are perfect asepsis, dry wounds, and a dry graft. The author's method of operation is as follows: The field of operation—either a fresh wound as after the removal of a tumor, or converted into a fresh wound by curetting—must be made antiseptic, preferably with sublimate solution; the antiseptic must then be completely washed away by a sterilized salt solution, and the wound dried with sterilized gauze. From this point the wound, the instruments, and the hands of the operator must be aseptic and dry. If the wound is an old one in which scar and other fibrous tissue has developed, all such tissue must be removed and only normal tissue remain. The same holds good for operations over the tibia; if there is thickening, it must be chiselled away. The field of operation is then covered by a compress and tight-fitting aseptic gauze bandage.

The skin that is to be transplanted is now thoroughly cleansed and made aseptic. Too much rubbing should be avoided; the sublimate should be entirely washed away with the sterilized salt solution, and the skin made perfectly dry. In this case, as in the other portion of the operation, the operator's hands and instruments must be dry, and asepsis, not antisepsis, used. The anterior and inner surfaces of the arms and thighs are to be used, as also that from the glutei. The strips taken should generally be spindle-shaped, as such wounds are more easily closed, and should be afterward trimmed as required. The section is cut out and then dissected up, the knife being held perpendicular to the flap. The layer of connective tissue between the skin and subcutaneous fat should be dissected up with it; but it makes no difference if small particles of fatty tissue come with it.